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09/248,371	02/08/1999	ANTHONY M. LOVELL	10525/003001	8678

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EXAMINER

PHILPOTT, JUSTIN M

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/248,371

Applicant(s)

LOVELL ET AL.

Examiner

Justin M Philpott

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-11,14-25,28-44,47-53 and 55-68 is/are rejected.
- 7) ☒ Claim(s) 3-5,12,13,26,27,45,46 and 54 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

This Office Action is in response to the Amendment filed November 18, 2002.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the reassigned nodes" (lines 11 and 12) in the same claim. There is insufficient antecedent basis for this limitation in the claim. Applicant may overcome this rejection by amending lines 9-12 of claim 1 as follows (with suggested changes underlined):

“transmitting to each selected node a packet including the data block and a first list of the nodes assigned to the selected node, the list dynamically associating the at least one selected node with the corresponding assigned at least one unselected node for the transmission of the data block to the assigned at least one unselected node.”

Claim 68 recites an unknown term “sc/node 2” (line 5) rendering the claim indefinite.

Claim Rejections - 35 USC § 102

3. Claims 1, 6, 43, 48 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,864,559 to Perlman.

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Regarding claims 1 and 43, Perlman teaches transmitting a data block over a network (col. 6, lines 48-52) from a first sending node (e.g. node 124, see FIG. 1) to a first set of recipient nodes (102, 105-107 and 122-123) comprising dividing the first set of recipient nodes into a subset of selected nodes (122 and 123) that are selected according to scoring criteria associated with each recipient node (wherein scoring criteria is based on cost of each path in a spanning tree configuration commonly known in the art, see col. 3, lines 13-27) and a subset of unselected nodes (102 and 105-107), assigning at least one of the unselected nodes to at least one selected node (e.g., unselected node 105 assigned to selected node 122) according to scoring criteria associated with the respective selected nodes, and transmitting to each selected node a packet including the data block (col. 6, line 52) and a first list of the nodes assigned to the selected node (see col. 5, line 67 regarding “list”).

Regarding claims 6 and 48, Perlman discloses criteria comprising the effective bandwidth (see col. 3, lines 13-20 regarding “volume of traffic”).

Regarding claim 53, Perlman further teaches the elements of claim 1 in a second sending node (e.g., node 127).

Claim Rejections - 35 USC § 103

4. Claims 7-10 and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman.

Regarding claims 7-8 and 49-50, Perlman teaches scoring criteria according to the spanning tree method commonly known in the art (col. 3, lines 13-20). While Perlman does not

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specifically disclose this criteria comprising latency and time between sending and receiving packets, such network characteristics are known in the art to be used in determining cost. Perlman uses costs as scoring criteria, thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to utilize latency and time between sending and receiving packets as part of the scoring criteria.

Regarding claims 9-10 and 51-52, Perlman teaches data packets defined as “messages which carry information or data which is not related to network operation” (col. 6, lines 50-52). While Perlman does not specifically disclose these data packets as comprising audio or video data, this definition of Perlman encompasses and anticipates such data types for transmission in the disclosed communications system. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include audio and/or video data in the data packets.

5. Claims 2, 11, 14-25, 28-42, 44, 47 and 55-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of U.S. Patent No. 5,787,083 to Iwamoto et al.

Regarding claims 2 and 44, Perlman teaches the system described above, however, does not specifically disclose each unselected node directly assigned to at least one selected node (e.g., unselected node 107 is not directly assigned to selected node 123, rather is indirectly assigned through node 102). Iwamoto teaches a network comprising a group of selected nodes (switch nodes 101-103, see FIG. 1) and a group of unselected nodes (terminals Pa-Pe) with a broadcasting source (104). The network of Iwamoto clearly indicates each unselected node being assigned to at least one selected node. Furthermore, applying the organized arrangement of Iwamoto with the system of Perlman would provide improved control means for data transfer.

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Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Iwamoto to the system of Perlman.

Regarding claim 56, Perlman teaches the elements of claim 1 as described above which includes the transmitting by, and receiving from, a first sending node (node 124, see FIG. 1) a packet including a data block (col. 6, line 52) and a first list of assigned nodes (col. 5, line 67), and also includes the use of scoring criteria (col. 3, lines 13-27) to regulate steps of dividing and assigning. Perlman, however, does not specifically teach a step of further dividing the first list of assigned nodes into subsets of selected assigned nodes and unselected assigned nodes. Iwamoto teaches a network which can be applied to the system of Perlman to provide improved control means as described above. The network of Iwamoto further comprises dividing the first list of assigned nodes (member list, col. 4, line 52) into a subset of selected assigned nodes and a subset of unselected assigned nodes (see col. 4, line 28 to col. 5, line 3 – particularly col. 4, lines 62-67 regarding the member list being divided into branching groups), re-assigning each of the unselected assigned nodes (Pb-Pc and Pd-Pe) to at least one selected assigned node (102 and 103, respectively) (see col. 5, lines 4-17 regarding editing the member list), and transmitting to each selected assigned node a packet including the data block and a list of the nodes re-assigned to the selected assigned node (see the above Perlman in view of Iwamoto regarding the data block, and see col. 5, line 43 to col. 8, line 38 regarding transmission of edited member list). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the above teachings of Iwamoto to the system of Perlman in order to provide an improved communications system.

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Regarding claim 47, Iwamoto further teaches generating a discernable output reflecting information in the data block (col. 1, line 63 regarding “broadcast”).

Regarding claim 11, Perlman in view of Iwamoto teaches the elements of claim 2 as described above. Iwamoto further teaches each unselected node (Pa-Pb) assigned to only one selected node (101-103).

Regarding claim 14, see the above regarding claim 1.

Regarding claim 15, see the above regarding claim 14 and claim 2.

Regarding claim 16, see the above regarding claim 14 and Iwamoto further teaches a network wherein the at least one recipient node includes at least two recipient nodes (e.g., nodes 101 and 102).

Regarding claim 17, see the above regarding claim 14 and claim 47.

Regarding claim 18, see the above regarding claim 14 and claim 6.

Regarding claims 19-20, see the above regarding claim 14 and claims 7-8.

Regarding claims 21-22, see the above regarding claim 14 and claims 9-10.

Regarding claim 23, see the above regarding claim 15 and claim 11.

Regarding claim 24, Iwamoto discloses the network as applying to ISDN switching networks (col. 2, lines 30-31) which anticipates the use of a computer program product residing on a computer readable medium comprising instructions. Regarding all other elements of claim 24 see the above regarding claim 1.

Regarding claim 25, see the above regarding claim 24 and claim 2.

Regarding claim 28, see the above regarding claim 24 and claim 6.

Regarding claims 29-30, see the above regarding claim 24 and claims 7-8.

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Regarding claims 31-32, see the above regarding claim 24 and claims 9-10.

Regarding claim 33, see the above regarding claim 25 and claim 11.

Regarding claim 34, see the above regarding claim 14.

Regarding claim 35, see the above regarding claim 34 and claim 2.

Regarding claim 36, see the above regarding claim 34 and claim 47.

Regarding claim 37, see the above regarding claim 34 and claim 6.

Regarding claims 38-39, see the above regarding claim 34 and claims 7-8.

Regarding claims 40-41, see the above regarding claim 34 and claims 9-10.

Regarding claim 42, see the above regarding claim 35 and claim 11.

Regarding claim 55, see the above regarding claim 54 and claim 11.

Regarding claim 57, see the above regarding claim 56 and claim 2.

Regarding claim 58, see the above regarding claim 56 and claim 16.

Regarding claim 59, see the above regarding claim 56 and claim 47.

Regarding claim 60, see the above regarding claim 56 and claim 6.

Regarding claims 61-62, see the above regarding claim 56 and claims 7-8.

Regarding claims 63-64, see the above regarding claim 56 and claims 9-10.

Regarding claims 65-66, see the above regarding claim 56 and furthermore, Perlman teaches at least one sending node (e.g., node 124).

Regarding claim 67, see the above regarding claim 56 and claim 11.

Regarding claim 68, see the above regarding claim 1.

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6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

7. Claim 14 is objected to because of the following minor informality: "the packet" (line 4) should be changed to "a packet".
8. Appropriate correction is required.

Allowable Subject Matter

9. Claims 3-5, 12, 13, 26, 27, 45, 46 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed November 18, 2002 have been fully considered but they are not persuasive.

Regarding claims 1 and 43, Applicant argues that Perlman does not teach transmitting a list of nodes assigned to the selected node. However, it is well known in the art of multicast message distribution that, in particular, for initializing a multicast network a first sending node

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transmits a list of nodes assigned (e.g., neighbors) to a selected node (e.g., receiving node).

Perlman discloses an example of such configuration using link state packets (col. 2, line 39 – col. 3, line 42) which comprise a list of neighboring nodes with which the receiving node may then be associated. The Applicant further argues that the amendment to the claims more clearly recites that the list transmitted to the selected node dynamically associates the node with unselected nodes from the list for transmitting the data block to those unselected nodes.

However, a dynamic association regarding the first list is not evident in claims 1 and 43. Rather, the dynamic association may be realized in the additional step(s) of receiving the first list at a recipient node, further dividing the list of assigned nodes into selected assigned nodes and unselected assigned nodes according to scoring criteria, and then re-assigning unselected assigned nodes to selected assigned nodes. That is, it is not evident that the list dynamically associates unless the method of claim 1 further comprises, for example, the method of claim 3 or, similarly, unless the method of claim 43 further comprises, for example, the method of claim 45.

Regarding claims 7-10 and 49-52, these claims are dependent upon claims 1 and 43, respectively, and thus, would be allowable if rewritten to be dependent upon a base claim comprising the combined methods of claims 1 and 3, and claims 43 and 45, respectively, as discussed above.

Regarding claims 2-5, 11, 13-42, 44-47 and 54-67, Applicant argues that Iwamoto teaches a switch node which is not a recipient node but rather a routing node for broadcast information, and further argues that Iwamoto does not disclose the dynamic assignment of nodes to a selected node. While the switch node of Iwamoto may serve an additional function compared to the recipient node (i.e., the function of switching), it remains obvious to apply the

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organized arrangement, or path setting method, of Iwamoto to the multicast distribution of Perlman to provide improved control means for data transfer as discussed above. Regarding the dynamic assignment of nodes to a selected node, see the above regarding claims 1 and 43 with respect to Perlman. In response to applicant's arguments against the Iwamoto reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The examiner can normally be reached on M-F, 8:30am-5:00pm.

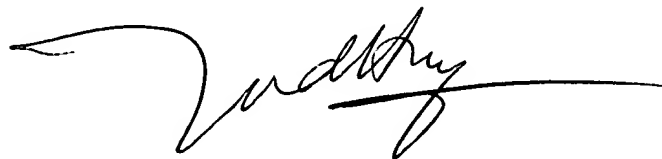
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9314 for regular communications and 703.872.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.305.4750.

Justin M Philpott



January 13, 2003



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600